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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/381,631 03/01/00 JEANVOINE

P 1247-0822-0V

EXAMINER

IM31/0509

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ART UNIT

PAPER NUMBER

1731

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/381,631

Applicant(s)

JEANVOINE ET AL.

Examiner

Sean E Vincent

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. Examples of indefiniteness are given below, but a thorough re-write of the claims is necessary.

4. The claims are further indefinite because reference numbers confuse the scope of the claims. The claims should stand on their own. The reference numbers should be removed.

5. The claims are further indefinite because several limitations are claimed in quotation marks (see "thin layer" in claim 1 for example). The applicant can be his/her own lexicographer, provided adequate definitions are found in the specification. The use of quotation marks in the claims suggests that the quoted text should have a definition different from the definition given in the specification.

6. The claims are further indefinite for numerous recitations of the term "and/or". It is not clear if the limitations following "and/or" are part of the scope of the claims or not.

7. The claims are further indefinite because they state alternate embodiments separated by a slash like "fuel(s)/gas" in claim 1, "adjusting/regulating" in claim 20 and "notches/grooves" in

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claim 30. This is tantamount to use of an and/or term. Wherever possible, groupings or alternatives should be claimed using straight-forward terms "and", "or", "one of...", "at least one of...", "one or more of..." or "group consisting essentially of..." or in some cases, different dependent claims. No new matter should be added.

8. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 7 recites the broad recitation "batch materials and/or cullet and/or vitrifiable scrap and/or combustible elements", and the claim also recites "especially glass-plastic composites, glass-metal composites, organic materials, or coal" which is the narrower statement of the range/limitation. *Claim 7 is just one example of this rejection. Due to the number of claims and the frequency of the terms "especially" and "preferably" in the claims, many more claims are indefinite for the above reason. Claim 9 varies somewhat by stating "or even" before a narrower range.*

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9. Regarding claims 10, 12 and 13, the terms "coke type," "NaNO₃ type," "flow-canal type," and "plug-flow type" render the claims indefinite because the claims includes elements not actually disclosed, thereby rendering the scope of the claim(s) unascertainable. *Note that claims 10, 12 and 13 are just examples of this rejection. Numerous other occurrences of a term followed by "type" are found in the claims and they are all indefinite for the above reason.*

10. Claim 16 is further indefinite because it is unknown what R1 and R2 are.

Claim Objections

11. Claim 18 is improper because it is an apparatus claim depending from a method claim (1).

12. Claim 17 is improper because it appears to be a process claim depending from an apparatus claim (18).

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1-8, 10-13, 18-22, 36 and 37 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Koz'min et al (Science in the Glass Industry article). The features of applicant's claims can be found throughout the article.

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Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koz'min et al.

18. Koz'min et al does not explicitly state bubble diameters of at least 100 μ . It would have been obvious to a person of ordinary skill in the art at the time the invention was made to expect the molten glass of Koz'min et al to have bubbles of 100 μ before refining because it would have been consistent with Koz'min et al's bubble concentration of 150-900/cm³.

19. Claims 14-16, 23, 24, 26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koz'min et al in view of St. John (US 3938981).

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20. Koz'min et al does not teach refining in a compartment with inclined, mutually parallel walls spaced for thin film layer formation. St. John teaches diverting devices between which glass is forced (see col. 3, line 28 to col. 5, line 20). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the diverting devices of St. John into the arrangement of Koz'min et al because St. John teaches that it would more efficiently remove bubbles from molten glass.

21. Koz'min et al and St. John do not teach rectangular section longitudinally partitioned tubes. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use such tubes instead of the conical diverters of St. John because changes in shape have been held to be obvious in the absence of persuasive evidence that the particular configuration is significant.

22. Koz'min et al does not teach a rotating device for centrifugal refining. St. John teaches a cylinder lined with refractory material mounted for rotation around its vertical axis, the cylinder housing the above discussed diverters (see col. 3, lines 11-27). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to add the rotating cylinder of St. John to the arrangement of Koz'min et al because St. John teaches that the centrifugal force further improved bubble removal.

23. St. John does not teach a particular thin layer thickness. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make the thickness of Koz'min et al and St. John less than 10cm because the specific process conditions recited are not critical but are merely optimal for the particular material being treated and they would be within the skill of the art to determine, *In re Aller et al.*, 105 U.S.P.Q. 233, 42 C.C.P.A. 824. It is the

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position of the Examiner that it would not require undue experimentation by a person of ordinary skill in the art at the time the invention was made to find these conditions beneficial.

24. Claims 17 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koz'min et al in view of Dolf et al (US 3260587).

25. Koz'min et al does not teach introducing raw material below the melt surface. Dolf et al teaches submerged combustion methods and apparatus including a spout with a lower end slightly below the normal liquid level of the glass in the furnace (see figures and col. 2, lines 1-12). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to introduce raw material below the liquid level of Koz'min et al because it would have prevented particulate batch from being blown upward by combustion gas escaping from the liquid surface, as suggested by Dolf et al.

26. Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koz'min et al in view of Ladirat et al (US 5567218).

27. Koz'min et al does not teach a melting chamber with water cooled walls or molybdenum-lined refractory. Ladirat et al teaches that such melting chambers were well known in the art (see col. 2, lines 1-11). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make the melting chamber of Koz'min et al with water cooled walls because Ladirat et al teaches that such chambers were known to have a considerable service life.

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Allowable Subject Matter

28. Claims 25, 27, 28 and 30 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

29. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach or fairly suggest these apparatus features:

- a. Inclined, rectangular section tubular elements submerged in the melting chamber through which molten glass is forced as claimed.
- b. Partitions in a rotating device for centrifugal refining, said partitions defining the thickness of the thin layer between the partition and the cylindrical internal walls of the device as claimed.
- c. Means for trapping solid particles in the rotating device as claimed.

It would not have been obvious to incorporate the above features into the teachings of the prior art.

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Conclusion

30. The prior art made of record and not relied upon is cited to further show the state of the art.

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E Vincent whose telephone number is 703-305-3607. The examiner can normally be reached on M - F (8:30 - 6:00) Second Monday Off.

32. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

33. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Sean E Vincent
Primary Examiner
Art Unit 1731

S Vincent
May 5, 2001